

Listing of Claims:

Claims 1-36 (Previously Cancelled)

Claim 37 (Currently Amended) A method of expanding a population of hematopoietic cells, while at the same time inhibiting differentiation of the hematopoietic cells, the method comprising the step of administering to a patient in need thereof an effective amount of a transition metal chelator having affinity for copper, wherein said chelator inhibits differentiation of said hematopoietic cells, thereby expanding a population of said hematopoietic cells in said patient providing the cells with conditions for cell proliferation and, at the same time, for reducing a capacity of said cells in utilizing copper.

Claims 38-42 (Cancelled)

Claim 43 (Currently Amended) The method of claim 37 42, wherein said transition metal chelator is selected from the group consisting of polyamine chelating agents, ethylenediamine, diethylenetriamine, triethylenetetramine, triethylenediamine, tetraethylenepentamine, aminoethylmethanolamine, aminoethylpiperazine, pentaethylenehexamine, triethylenetetramine-hydrochloride, tetraethylenepentamine-hydrochloride, pentaethylenehexamine-hydrochloride, tetraethylpentamine, captopril, penicilamine, N,N'-bis(3-aminopropyl)-1,3-propanediamine, ~~N,N-Bis (2 aminopropyl) 1,3 propanediamine, 1,7 dioxo 4,10 diazacyclododecane, 1,4,8,11 tetraaza cyclooctadecane 5,7 dione, 1,4,7-triazacyclononane trihydrochloride, and 1-oxa-4,7,10-triazacyclododecane, 1,4,8,12 tetraaza cyclopentadecane, 1,4,7,10-tetraaza cyclooctadecane.~~

APPLICANTS: Peled et al.
U.S.S.N.: 09/988,127

Claims 44-100(Cancelled)

Claim 101 (New) The method of claim 37, wherein said individual has a hemoglobinopathy.

Claim 102 (New) The method of claim 102, wherein said hemoglobinopathy is sickle cell anemia.

Claim 103 (New) The method of claim 102, wherein said hemoglobinopathy is β -thalassemia.

Claim 104. (New) A method of mobilizing hematopoietic stem cells in a peripheral blood cell donor, the method comprising administering to said individual an effective amount of a transition metal chelator having affinity for copper wherein said chelator inhibits differentiation of said hematopoietic cells, so as to expand a population of said hematopoietic stem cells in said peripheral blood cell donor, and treating said peripheral blood cell donor so as to mobilize bone marrow cells into peripheral circulation, thereby mobilizing hematopoietic stem cells in said peripheral blood cell donor.

Claim 105. (New) The method of claim 104, wherein said transition metal chelator is selected from the group consisting of polyamine chelating agents, ethylenediamine, diethylenetriamine, triethylenetetramine, triethylenediamine, tetraethylenepentamine, aminoethylmethanolamine, aminoethylpiperazine, pentaethylenehexamine, triethylenetetramine-hydrochloride, tetraethylenepentamine-hydrochloride, pentaethylenehexamine-hydrochloride,

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tetraethylpentamine, captopril, penicilamine, N,N'-bis(3-aminopropyl)-1,3-propanediamine,
1,4,7-triazacyclononane trihydrochloride and 1-oxa-4,7,10-triazacyclododecane.